WHAT IS CLAIMED IS:

1. A method for modulating the activity of a growth factor in a sample, which contains an activated α2-macroglobulin, comprising (a) contacting the sample with a fatty acid in an amount sufficient to inhibit the formation of a complex between the growth factor and the activated α2-macroglobulin, wherein (b) the fatty acid binds to the activated α2-macroglobulin.

2. The method of claim 1 wherein the fatty acid has a carbon chain length of at least 14.

3. The method of claim 2 wherein the fatty acid is a saturated fatty acid.

4. The method of claim 3 wherein the fatty acid is selected from the group consisting of myristic acid, palmitic acid and stearic acid.

5. The method of claim 4 wherein the fatty acid is myristic acid.

6. The method of claim 2 wherein the fatty acid is an unsaturated fatty acid.

7. The method of claim 6 wherein the fatty acid is selected from the group consisting of arachidonic acid, oleic acid, γ-linolenic acid, linoleic acid, palmitoleic acid and linolenic acid.

8. The method of claim 7 wherein the fatty acid is arachidonic acid.

9. The method of claim 1 wherein the growth factor is selected from the group consisting of platelet-derived growth factor-AA, platelet-derived growth factor-BB, vascular endothelial cell growth factor, fibroblast growth factors, interleukins, growth hormone, insulin, insulin-like growth factor-1, insulin-like growth factor-2, nerve growth factor, neurotrophins and TGF-β.

10. The method of claim 9 wherein the growth factor is TGF-β.

11. The method of claim 10 wherein the TGF-β is selected from the group consisting of TGF-β1, TGF-β2 and TGF-β3.

12. The method of claim 11 wherein the TGF-β is TGF-β1.

13. The method of claim 1 wherein the sample is a tissue or plasma.

14. The method of claim 13 wherein the tissue or plasma is in an animal.

15. The method of claim 14 wherein the animal is a mouse.

16. The method of claim 10 wherein the TGF-β activity in the sample is increased relative to the TGF-β activity in another sample to which no fatty acid is added.

17. The method of claim 10 wherein the formation of a complex between the TGF-β and the activated α2-macroglobulin is inhibited at least 10% relative to the formation of a complex between a TGF-β and an activated α2-macroglobulin in a sample to which no fatty acid is added.

18. The method of claim 10 wherein the formation of a complex between the TGF-β and the activated α2-macroglobulin is inhibited at least 20% relative to the formation of a complex between a TGF-β and an activated α2-macroglobulin in a sample to which no fatty acid is added.

19. The method of claim 10 wherein the formation of a complex between the TGF-β and the activated α2-macroglobulin is inhibited at least 40% relative to the formation of a complex between a TGF-β and an activated α2-macroglobulin in a sample to which no fatty acid is added.

20. The method of claim 10 wherein the formation of a complex between the TGF-β and the activated α2-macroglobulin is inhibited at least 60% relative to the formation of a complex between a TGF-β and an activated α2-macroglobulin in a sample to which no fatty acid is added.

21. The method of claim 10 wherein the formation of a complex between the TGF-β and the activated α2-macroglobulin is inhibited at least 80% relative to the formation of a complex between a TGF-β and an activated α2-macroglobulin in a sample to which no fatty acid is added.

22. A method for modulating the activity of a growth factor in a sample, which contains an α2-macroglobulin – growth factor complex, comprising (a) contacting the sample with a fatty acid in an amount sufficient to promote the dissociation of the α2-macroglobulin – growth factor complex, wherein (b) the fatty acid binds to the α2-macroglobulin portion of the α2-macroglobulin – growth factor complex and (c) the growth factor dissociates from α2-macroglobulin.

23. The method of claim 22 wherein the fatty acid has a carbon chain length of at least 14.

24. The method of claim 23 wherein the fatty acid is a saturated fatty acid.

25. The method of claim 24 wherein the fatty acid is selected from the group consisting of myristic acid, palmitic acid and stearic acid.

26. The method of claim 25 wherein the fatty acid is myristic acid.

27. The method of claim 23 wherein the fatty acid is an unsaturated fatty acid.

28. The method of claim 27 wherein the fatty acid is selected from the group consisting of arachidonic acid, oleic acid, γ-linolenic acid, linoleic acid, palmitoleic acid and linolenic acid.

29. The method of claim 28 wherein the fatty acid is arachidonic acid.

30. The method of claim 1 wherein the growth factor is selected from the group consisting of platelet-derived growth factor-AA, platelet-derived growth factor-BB, vascular endothelial cell growth factor, fibroblast growth factors, interleukins, growth hormone, insulin, insulin-like growth factor-1, insulin-like growth factor-2, nerve growth factor, neurotrophins and TGF-β.

31. The method of claim 30 wherein the growth factor is TGF-β.

32. The method of claim 31 wherein the TGF-β is selected from the group consisting of TGF-β1, TGF-β2 and TGF-β3.

33. The method of claim 32 wherein the TGF-β is TGF-β_1.

34. The method of claim 22 wherein the sample is a tissue or plasma.

35. The method of claim 34 wherein the tissue or plasma is in an animal.

36. The method of claim 35 wherein the animal is a mouse.

37. A method of blocking the inhibitory effects of activated α_2-macroglobulin on TGF-β activity or reversing the inhibitory effects of activated α_2-macroglobulin on TGF-β activity comprising (a) contacting a sample, which comprises an activated α_2-macroglobulin or an α_2-

macroglobulin - TGF-β complex, with a fatty acid in an amount sufficient to (i) inhibit the formation of a complex between the TGF-β and the activated α_2-macroglobulin or (ii) promote the dissociation of the α_2-macroglobulin - TGF-β complex, wherein (b) the fatty acid binds to the activated α_2-macroglobulin or the α_2-macroglobulin portion of the α_2-macroglobulin - TGF-β complex.